



THE VETERINARY BULLETIN

1949

VOLUME XIX

Index



COMMONWEALTH BUREAU OF ANIMAL HEALTH
WEYBRIDGE, SURREY,
ENGLAND.

Commonwealth Agricultural Bureaux

EXECUTIVE COUNCIL

Sir PATRICK R. LAIRD, C.B., F.R.S.E. (Chairman)	...	United Kingdom.
J. E. CUMMINS, M.Sc., F.R.I.C. (Vice-Chairman)	...	Australia.
Lt.-Col. J. G. ROBERTSON, B.S.A., F.R.S.A.	...	Canada.
Dr. E. MARSDEN, C.M.G., C.B.E., M.C., F.R.S.	...	New Zealand.
A. P. van der POST, B.A. (Hons.), B.Sc. (Agric.)	...	Union of South Africa.
R. McCHLERY, B.A., B.Sc.	...	Southern Rhodesia.
DEPUTY HIGH COMMISSIONER	...	India.
THE HIGH COMMISSIONER FOR PAKISTAN	...	Pakistan.
Sir OLIVER GOONETILLEKE, K.C.M.G., K.B.E. (High Commissioner)	...	Ceylon.
J. G. HIBBERT, C.M.G., M.C.	...	Colonies, Protectorates and Mandated Territories.
Sir HERBERT HOWARD, 2 Queen Anne's Gate Buildings, Dartmouth Street, London, S.W.1.	...	Secretary.

COMMONWEALTH BUREAU OF ANIMAL HEALTH, WEYBRIDGE

*Director, Veterinary Laboratory, Ministry of Agriculture
and Fisheries, and Consultant Director of the Bureau :*
Professor T. DALLING, M.A., M.R.C.V.S.

*Director and Editor of
The Veterinary Bulletin and of Index Veterinarius :*
W. A. POOL, M.R.C.V.S.

Assistant Director :
M. CRAWFORD, M.R.C.V.S.

Scientific Assistants :
E. MARSH JONES, M.Sc., A.R.I.C.
F. A. ABBEY, B.A. (Cantab.)
F. EILEEN WILLIAMS, B.A.
E. GLASNER

PLAN OF ARRANGEMENT OF ABSTRACTS IN THE VETERINARY BULLETIN

The following is a guide to the order of abstracts in the *Veterinary Bulletin*. For diagnosis and diagnostic agents tuberculin etc.) see under appropriate disease. The guide is necessarily limited to key words and frequently occurring items.

Abstracts are serially numbered and cross-referenced by number among the twenty-one different sections.

I. Diseases Caused by Bacteria and Fungi

AEROBES

Cocci

Staphylococci

Streptococci

Mastitis (under appropriate causal agent)

Strangles

Micrococci (including Botryomycosis)

Vibrios

Spirilla

Bacilli

Anthrax

Mycobacteria

Tuberculosis

Johne's disease

Corynebacteria

Caseous lymphadenitis

Ulcerative lymphangitis

Pfeifferella mallei (Glanders)

Erysipelothrix rhusiopathiae (Swine Erysipelas)

Erysipelothrix (Listeria) monocytogenes

Pasteurella

Haemorrhagic septicæmia

Pseudomonas

Haemophilus

Proteus

Colon-Typhoid Group

Salmonella Group

Infection in mammals

Abortion in mares

Abortion in ewes

Porcine enteritis

Infection in birds

Pullorum disease (B.W.D.)

Fowl typhoid

Meat poisoning infections

Brucella Group

Br. abortus

Br. suis

Br. tularensis

Br. melitensis

ANAEROBES

Clostridia

Blackleg

Malignant oedema

Clostridial infections of sheep

Tetanus

Botulism

Vibrios

Fusiformis

FUNGI

Mucor

Coccidioides

Histoplasma

Cryptococcus (Epizootic Lymphangitis)

Ringworm

Aspergillus

Actinomyces

Actinobacillus

VARIOUS OTHER UNCLASSIFIED MICRO-ORGANISMS

Bartonella

Eperythrozoon

Grahamella

PLEURO-PNEUMONIA GROUP

Bovine Contagious Pleuro-Pneumonia

Pleuro-Pneumonia-Like Organisms including
Contagious Agalactia of Goats and Sheep

BACTERIAL FLORA OF ANIMAL TISSUES

METABOLISM AND NUTRITION OF MICRO-ORGANISMS

II. Diseases Caused by Protozoan Parasites

Amoebiasis

Trypanosomiasis

Leishmaniasis

Trichomoniasis

Blackhead of Turkeys (*Histomonas meleagridis*)

Infectious Enteritis of Turkeys (*Hexamita*)

Coccidiosis

Malaria

Piroplasmosis

Theileriasis

Anaplasmosis

Toxoplasmosis

III. Diseases Caused by Viruses and Rickettsia

Virus Infections not Limited to Single Species

Foot and mouth disease

Aujeszky's disease

Rabies

Pox diseases

Influenza group

Encephalitis group

Equine encephalomyelitis

Virus Diseases of Equines

Respiratory infections

Equine infectious anaemia

African horse sickness

Virus abortion

Virus Diseases of Cattle

Rinderpest

Bovine malignant catarrh

Three-day fever

Respiratory infections

Virus Diseases of Sheep and Goats

Bluetongue

Contagious ecthyma

Louping ill

Virus Diseases of Swine

Swine fever

Porcine encephalomyelitis (Teschin disease)

Vesicular exanthema

Virus Diseases of Carnivora

Of dogs

Of cats

Of foxes

Of other carnivora

Virus Diseases of Rodents

Virus Diseases of Birds

Fowl plague

Newcastle disease

Respiratory infections

Psittacosis

Virus Diseases of Man

Bacteriophage

Rickettsial Infections

Heartwater

Rickettsial conjunctivitis

IV. Immunity

General Immunology

Immunization and Immunizing Agents

Serology

Allergy and Anaphylaxis

Tissue Invasiveness (Permeability)

Various

V. Parasites in Relation to Disease [General]

VI. Parasites in Relation to Disease [Arthropods]

Lice

Bugs

Fleas

Dipterous Flies

Blowflies and fleshflies

Oestrids (warbleflies and botflies)

Biting muscids (*Stomoxys*, *Siphona*, *Glossina*)

Tabanids

Midges

Mosquitoes

Sheep ked

Pentastomes

Linguatula

Ticks

Mites

VII. Parasites in Relation to Disease [Helminths]

TREMATODES

CESTODES

Taenia

Cysticercosis

Echinococcosis

NEMATODES

Strongyloides

Trichurids

Trichinosis

Strongyles

Sclerostomes

Hookworms

Parasitic gastro-enteritis

Lungworms

Poultry gapeworm

Oxyurids

Ascarids

Spirurids

Filariae

Acanthocephala

VIII. Spontaneous and Transmissible Neoplasms and Leucemias [Including Fowl Paralysis]

Spontaneous Tumours

Cancer Research

Virus Tumours of Rodents

Fowl Sarcoma

Fowl Paralysis

IX. Nutritional and Metabolic Disorders

General Nutrition

Carbohydrates, Fats, Proteins, Amino Acids, etc.

Minerals

Osteodystrophy and Rickets

Vitamins

Metabolic Disorders

X. Diseases, General

General and Collective

Special Animal Pathology—Unclassified Diseases of Particular Animals

Haematology

Special Regional Pathology—Unclassified Diseases of Particular Body Systems

Histopathology

XI. Poisons and Poisoning

Inorganic

Organic and Alkaloid

Plant Poisons

Photosensitization

Poisoning by Ingestion of Arthropods

Venoms

Poisoning by Therapeutic Agents

Miscellaneous including War Gases

XII. Pharmacology and General Therapeutics
(For treatment of specific infections see under the appropriate disease).

General Chemotherapy and Pharmacology

Antibiotics

Treatment of Unclassified Diseases

Vitamin Therapy

Hormone Therapy

Antidotes

Anaesthesia

Wound Treatment

Antiseptics and Disinfectants

XIII. Physiology, Anatomy and Biochemistry

General

Enzymes

Metabolism

Lactation

Normal Haematology and Blood Groups

Regional Physiology (Circulatory, Digestive, Respiratory, Nervous, Skeletal, Urino-Genital and Endocrine Systems)

Wound Healing

Anatomy

Biochemistry

XIV. Public Health, Veterinary Services and Veterinary Education

Milk Hygiene

Meat Hygiene

Food Poisoning

Rodent Control

Legislation and Veterinary Police Measures

Education

XV. Livestock Hygiene

Farm Buildings

Ventilation

Drainage

Disinfection

Water Supply

Pastures and Grazing

Conservation of Foodstuffs and Fodder

XVI. Reproduction and reproductive disorders.

Artificial Insemination

Pregnancy Diagnosis

Sex Hormones

Sterility and Infertility

Hereditary Diseases

Lethal Factors and Teratology

Management of Breeding Stock

XVII. Zootechny

Acclimatization

Marking and Identification of Livestock

Dips and Dipping Tanks

Dehorning

Shearing

Castration

Hides and Skins

Humane Slaughter

Various

XVIII. Technique and Apparatus

Bacteriological

Parasitological

Microscopy and Optics

Histological

Laboratory, Various

XIX. Miscellaneous

XX. Reports (of State and Local Government Departments and of Institutes, Schools, and Other Corporate Bodies)

XXI. Book Reviews

CONTENTS

DISEASES CAUSED BY BACTERIA AND FUNGI, 1-48.

Relation between pigment production in staphylococci and the coagulase test, haemolysis and growth on crystal violet medium, 1; Differentiation of streptococci of Group A, 2; Tubercle bacilli in the tracheo-bronchial mucus of *T.B.* bovines, 3; Tubercle bacilli in Cairo milk, 4; Principles of BCG vaccination, 5; Vaccination with BCG, 6; BCG and the newer epidemiology of *T.B.*, 7; Tuberculin and the determination of bacterial type, 8; *T.B.* [Histoplasmin sensitivity], 9; Comparison of human and bovine tuberculin on g. pigs sensitized with several acid-fast organisms, 10; The thyroid and *T.B.*, 11 & 12; Anti-tubercular compounds, 13; Reaction of the chicken embryo and the chorioallantoic membrane to various strains of *Mycobact. paratuberculosis*, 14; Caseous lymphadenitis in sheep, 15; Corynebacteria from the genital tract of bulls, 16; Production of diphtheria toxin by submerged culture, 17; Recognition of toxicogenic bacterial strains *in vitro*, 18; Titration of mallein by precipitin test and by complement fixation, 19; Diagnosis during life of chronic swine erysipelas, 20; Swine erysipelas in Kenya, 21; Basic fuchsine vaccine for swine erysipelas, 22; Listeriosis in Ohio, 23; Acute bovine listeriosis, 24; Pasteurellosis in swine, 25; Plague infection in the U.S.A. in 1947, 26; Yeast autolysate: a medium for *Haemophilus influenzae*, 27; Serological determination of coliform bacteria from unweaned calves, 28; Bacillin production by soil isolates, 29; Mechanism of recovery in pneumonia due to Friedländer's bacillus, 30; Sulphonamide chemotherapy of experimental Friedländer's bacillus pneumonia, 31; Role of "Surface phagocytosis" in the destruction of micro-organisms in the lung, 32; Intra-articular changes in rabbits by injection of typhoid antigen, 33; Serology of the *Salmonella* group, 34; *Salmonella* typing in Canada, 35; *Salmonella* typing, use of polyvalent antisera, 36; Research in bovine brucellosis, 37; Equine brucellosis, 38; Brucellosis in the U.S.A., 39; Neurotropic *Brucella* strains, 40; Tularaemia, recently identified in France in hares, 41; Brucellosis in hares, 42; *Clostridium welchii* anaculture in prevention of entero-toxaemia in sheep, 43; Coccidioidomycosis in a dog, 44; Actinomycosis in cattle, 45; Penicillin in spirochaetosis of fowls and chicks, 46; Thermophilic proteolytic bacteria, 47; Bacterial dissociation, 48.

DISEASES CAUSED BY PROTOZOAN PARASITES, 49-60.

Control of dourine, 49; Morphology of *T. simiae*, 50; Treatment of human trypanosomiasis with para-arseno, 51; *Leishmania* infection in dogs, 52; Diagnosis of kala azar, 53; Re-exposure to *Tr. foetus* of animals already exposed as heifers, localization of antibody in the genital tract, 54; Effects of penicillin on the growth of *Tr. foetus*, 55; Changes in the infectiousness of gametocytes during *Pl. gallinaceum* infections, 56; Increased parasitaemia in chicken malaria following X-irradiation, 57; Effect of piroplasmosis on milk production, 58; Ovine piroplasmoses in Iraq, 59; Piroplasmosis in swine in Bulgaria, 60.

DISEASES CAUSED BY VIRUSES AND RICKETTSIA, 61-90.

Foot and mouth disease in Portugal, 61; Unsuccessful results from antirabic treatment, 62; Paralytic rabies in cattle. Fixation of the virus in calves and production of a vaccine, 63; Rabies in

Portugal, 64; Sheep pox, methods of immunization, 65; Vagaries of the agglutination-inhibition reaction with newly isolated influenza virus, 66; St. Louis encephalitis. Transmission to chickens by *Dermanyssus gallinae*, 67; Virus myocarditis. Pathological and experimental studies, 68; Filtrable viruses and allied infective agents, 69; Treatment of equine influenza, 70; Prevention and treatment of rinderpest, 71; Effects of aluminium gel on formalized rinderpest vaccine, 72; Contagious agalactia in sheep and goats, 73; Golgi material of the neurones of sheep with louping-ill, 74; Infectious gastroenteritis of swine and allied diseases, 75; Infectious venereal granuloma in the greyhound, 76; Fowl plague in Algeria, 77; Fowl plague and Newcastle disease in Poland, 78; Newcastle disease in ducks and geese, 79; Attempts to control air-borne infectious bronchitis and Newcastle disease with sterilamps, 80; Newcastle disease in pheasants, 81; Newcastle virus: conversion of spherical forms to filamentous forms, 82; Ornithosis among pigeons, 83; Immunological relationships of the psittacosis-lymphogranuloma venereum group of viruses, 84; New respiratory disease of turkeys, 85; Vaccination against smallpox, 86; Congenital defects in infants following infectious diseases during pregnancy, 87; Maternal rubella as a cause of congenital defects, 88; Bacteriophage under the ordinary microscope, 89; Conjunctivitis and keratitis of cattle and sheep associated with the presence of "cell-inclusion" bodies, 90.

IMMUNITY, 91-93.

Susceptibility to infection and response to immunization of laboratory animals in India and abroad, 91; An anti-hare serum from rabbits, 92; Lesions of reticuloendothelial cells in anaphylactic shock, 93.

PARASITES IN RELATION TO DISEASE [ARTHROPODS], 94-104.

High-frequency electric fields as lethal agent for insects, 94; Lead arsenate for the removal of bots, 95; Alopecia of the cheek in horses in hot weather [*Gastrophilus pecorum* invasion], 96; *Ornithodoros lahorensis* parasitizing sheep, 97; Pasture management kills *Amblyomma americanum*, 98; Tobacco extract for control of arsenic-resistant blue tick and cattle lice, 99; The life-cycle of two *Ornithodoros* ticks, *O. canestrinii* and *O. delanoi*, 100; Pathogenicity of *D. gallinæ*, 101; Mites collected in Natal from fowls, pigeons, turkeys, guinea-fowls, wild birds and rabbits, 102; Immunological studies on scorpions, 103; Scorpion sting in a horse, 104.

PARASITES IN RELATION TO DISEASE [HELMINTHS], 105-110.

Atypical cysticercoses, 105; Cysticercosis of the brain in Rhodesia. [Human], 106; Secretion of gastric juice in recovery after pernicious *Bothriocerphalus* anaemia, 107; Casoni intradermal test and blood tests in diagnosing echinococcosis, 108; Relationship of diet to hook-worm disease in lambs, 109; Helminths in domestic animals, 110.

SPONTANEOUS AND TRANSMISSIBLE NEOPLASMS AND LEUCAEMIAS [INCLUDING FOWL PARALYSIS], 111-119.

Suppression of growth of Brown-Pearce tumour cells by a specific antibody, 111; The causes of

cancer, 112; Neoplasms and their treatment, 113; Viruses in tumours, 114; Lymphadenosis in cattle, 115; Treatment of lymphomas, leukaemias and allied disorders, 116; Leukaemia in inbred stocks of mice varying in susceptibility to the spontaneous disease, 117; Serial passage of a transmissible lymphoid tumour, 118; Immunization against a lymphoid tumour of the chicken, 119.

NUTRITIONAL AND METABOLIC DISORDERS, 120-124.

Granulocytopenia and anaemia in rats fed diets of low casein content, 120; Failure of feather pigmentation of poult due to lysine deficiency, 121; Iron metabolism in piglet anaemia, 122; Effects of dietary zinc deficiency in the mouse, 123; Influence of phosphorus on the efficiency of vitamin D₃ and cod-liver oil in promoting calcification in poult, 124.

DISEASES, GENERAL, 125-131.

Diagnosis of diseases of lambs, 125; Production and mortality of White Leghorn, Rhode Island Red, and Barred Plymouth Rock Pullet, 126; Bovine cortico-adrenal deficiency. Analogy with Addison's disease, 127; Fatal syncope in swine, 128; Infectious pododermatitis in cattle, 129; Effort to transmit chronic atrophic rhinitis of swine, 130; Action of clover juice on isolated muscle and "bloat" in cattle, 131.

POISONS AND POISONING, 132-136.

Fluorosis of sheep in Queensland, 132; Percutaneous absorption of arsenic by sheep, 133; Action of arsine on blood, 134; Toxicity of D.D.T. to hens, 135; The poisonous Astragalus, 136.

PHARMACOLOGY AND GENERAL THERAPEUTICS, 137-144.

Activities of twenty-two antibacterial substances against bacteria, 137; Action of some carbonyl reagents on streptomycin, 138; Therapeutic effect of induced jaundice in rheumatoid arthritis, 139; Control of flies in cow-sheds, with D.D.T., 140; Site of action of D.D.T. in an insect, 141; Synthetic oestrogenic compounds, 142 & 143; Air sterilization by electroprecipitation and ultra-violet irradiation, 144.

PHYSIOLOGY, ANATOMY AND BIOCHEMISTRY, 145-154.

The span of life, 145; Reticuloendothelial cells reacting to toxic antigens and to infection, 146; Diameters of ventricular myocardial fibres in man and other mammals, 147; Enzootic muscle dystrophy in ducklings, 148; Physiological charac-

teristics of the flora from the rumen of cattle and sheep, 149; Action of sulphonamides on anaerobic activity of respiratory centre of young animals, 150; Morphological characteristics of the epithelial cells lining the genital tract of the bull, 151; Epithelial cells in preputial washings of bulls, 152; Effects of low temperature on metabolism of spermatozoa, 153; Avian analogue of the scrotum, 154.

PUBLIC HEALTH, VETERINARY SERVICES AND VETERINARY EDUCATION, 155-161.

Calcium content of milk, 155; Methods used at abattoirs, 156; Pathology of TB. met with in meat inspection, 157; Food poisoning, 158; Bacteriological standards for dehydrated foods, 159; Contributions of the sanitary engineering programme of UNRRA to international health, 160; Troitsk Veterinary Institute, 161.

REPRODUCTION AND REPRODUCTIVE DISORDERS, 162-168.

Dilution and preservation of cattle semen, 162; Post-parturient haemorrhage in cows, 163; Retention of the placenta in the bovine, 164; Treatment of endometritis in cows with stilboestrol and synoestrol, 165; Abortions in the camel, 166; Cryptorchidism in domestic animals, 167; Production of glomerulonephritis in rats by injection of rabbit anti-rat-placenta serum, 168.

ZOOTECHNY, 169-170.

Heat tolerance in Jersey and Holstein cows, 169; Part of animal transport in crossing the Gothic line, 170.

TECHNIQUE AND APPARATUS, 171-174.

Papain in cultivation of bacteria from the blood, 171; Clorox and tergitol-javelle water mixture for acid-fast bacilli concentration, 172.

REPORTS, 175-177.

N.F.U. year book for 1946, 175; Colony of Mauritius: Annual report Department of Agriculture, 1944, 176; Safeguarding the Union's livestock industry, 177.

BOOK REVIEWS, 178-182.

Textbook of medical entomology [Martini], 178; Introduction to the comparative morphology of the vertebrates [Portmann], 179; Oral vaccines and immunization by other unusual routes [Thomson], 180; Food inspection notes. A handbook for students [Hill], 181; The sanitary inspector's handbook. A manual for sanitary inspectors and other public health officers [Clay], 182.

INDEX TO AUTHORS

ANON., 9, 26, 71, 86, 161.

Aldridge, F. F., 160.

Ashley, L. M., 147.

Aspin, F. D., 79.

Azzi, A., 69.

Baker, D. W. See Whitlock, J. H., jt. author, 125.

Bang, F. B., 82.

Barry, V. C., 12, 13.

Basset, J., 41, 42.

Beck, J. D. See Stavitsky, A. B., jt. author, 14.

Birkner, P. M., 99.

Bell, D. S. See Pounden, W. D., et al., jt. authors, 24.

Beller, K., 128.

Bennett, G. A. See Morgan, H. R., jt. author, 33.
Bassis, M. & Freixa, M., 92.
Bird, H. R. See Rubin, M., et al., jt. authors, 135.
Birkhaug, K., 6, 7.
Black, G. H. B. See Swan, C., et al., jt. authors, 87.
Blakemore, F., 97.
Blattner, R. J. See Smith, M. G., et al., jt. authors, 67.
Blaxter, K. L., 149.
Bodkin, G. E., 178.
Bonadonna, T., 162.
Bouvier, G., 3.
Braun, W., 48.
Brotkaya, S. Z., 47.
Brumpt, E. & Callot, J., 101.

Bueno, P., 93, 146.
Bueno, R. C. See Nobrega, P., jt. author, 46.
Callot, J. See Brumpt, E., jt. author, 101.
Campana, Y., 97.
Cantrrell, W., & Jordan, H. B., 56.
Carter, R. H. See Rubin, M., et al., jt. authors, 135.
Ceccaldi, J., Trinquier, E., Pochard, P., & Vargues, R., 51.
Chládeck, V., 96.
Cicardo, V. H. See Izzo, R. A., jt. author, 11.
Clay, H. H., 182.
Colas-Bélcour, J., 100.
Cole, B. A., 55.
Colony of Mauritius. Ann. Rep. Dept. Agric., 1944, 176.

Index

owles, R. B., & Nordstrom, A., 154.
raver, L. F., 116.
rawford, T. B. B. See Graham, A. F., et al., jt. authors, 184.
rossley, V., Ferguson, M., Irvine, P., & Hastings, M., 36.
urasson, G., 166.
aft, F. S. See Kornberg, A., et al., jt. authors, 121.
ay, H. G., & Skidmore, B. E., 123.
elpy, L. P., & Rafyi, A., 65.
odds, E. C., Golberg, L., Grünfeld, E. I., Lawson, W., Saffer, C. M., Jr., & Robinson, R., 143.
—, Lawson, W., & Robinson, R., 142.
odsworth, E. See Hill, H., jt. author, 181.
olman, C. E. See Ranta, L. E., jt. author, 35.
onation, A., & Gayot, G., 77.
, & Rampon, L., 58.
onovick, R., Rake, G., & Fried, J., 138.
reyfuss, F., 171.
ryagin, S. V. See Zhukov, G. V., jt. author, 20.
dginton, B. H. See Pounden, W. D., jt. author, 23.
lek, S. D., 18.
merson, E. Z. See Morgan, B. B., et al., jt. authors, 16.
vans, A. C., 29.
abricant, J. See Levine, P. P., et al., jt. authors, 81.
—. See also Whitlock, J. H., jt. author, 43.
enton, E. L. See Linggood, F. V., jt. author, 17.
erguson, M. See Crossley, V., et al., jt. authors, 36.
erguson, W. S., 131.
oter, M. J. See Rudert, F. J., jt. author, 29.
reixa, M. See Bessis, M., jt. author, 92.
ried, J. See Donovick, R., et al., jt. authors, 188.
ritz, J. C., Hooper, J. H., Halpin, J. L., & Moore, H. P., 121.
all, L. S., Stark, C. N., & Loosli, J. K., 149.
ardner, F., Stewart, A., & MacCallum, F. O., 139.
ayot, G. See Donatien, A., jt. author, 77.
elfand, M., 1/8.
—. See also Richman, I. M., et al., jt. authors, 174.
ilder, A. A. See Khayyat, S. M., jt. author, 59.
ladtsinova, E. F., 158.
leeson, L. N., 76.
olaszewski, F. 49.
olberg, L. See Dodds, E. C., et al., jt. authors, 142, 148.
ordon, F. B. See St. John, E., jt. author, 84.
oresline, H. E., 159.
oyal, R. K., 91.
raham, A. F., Crawford, T. B. B., & Marrian, G. F., 134.
rasset, E., Schaafsma, A., & Hodgson, J. A., 1/3.
t. Britain, N.F.U. Yearbook, 1946, 175.
reen, N. See Rubin, M., et al., jt. authors, 135.
resson, R. A. R., & Zlotnik, I., 74.
ünfeld, E. I. See Dodds, E. C., et al., jt. authors, 143.
alpin, J. L. See Fritz, J. C., et al., jt. authors, 121.
hamond, J., 145.
aq, I., 151.
—, & Rollinson, D. H. L., 152.
astings, M. See Crossley, V., et al., jt. authors, 36.
erman, F. A. See Robinson, C. H., et al., jt. authors, 155.
ernberg, P. A., 107.
ess, E., 38.
eys, F. M. See Smith, M. G., et al., jt. authors, 67.
ill, H., & Dodsworth, E., 181.
ill, J. L., 133.
ill, J. M. See Richman, I. M., et al., jt. authors, 174.
lynska, I. See Robinson, C. H., et al., jt. authors, 155.
odgson, J. A. See Grasset, E., et al., jt. authors, 103.
ofer, A. W., 89.
hofstad, M. S. See Levine, P. P., jt. author, 80.
ooper, J. H. See Fritz, J. C., et al., jt. authors, 121.
upka, E., 163.
rvine, P. See Crossley, V., et al., jt. authors, 36.
izumi, J., 172.
izzo, R. A., & Cicardo, V. H., 11.
jacotot, H., 72.
ohansson, K. R. See Morgan, B. B., et al., jt. authors, 16.
ohnson, K. L., 129.
ordan, H. B. See Cantrell, W., jt. author, 56.
ungherr, E. See Minard, E. L., jt. author, 35.
urny, F., 167.
kämpe, A., 45.
aschula, V. R., & Stephan, S. A. R., 102.
auermann, F., 34.
avanagh, F., 137.
ennedy, A. J., 164.
err, W. R., & Robertson, M., 54.
ershaw, G. F., 170.
hayyat, S. M., & Gilder, A. A., 59.
idd, J. G., 111.
irschbaum, A., & Mixer, H. W., 117.
onst, H. See McIntosh, C. W., jt. author, 10.
orenchevsky, V., 145.
ornberg, A., Daft, F. S., & Sebrell, W. H., 120.
ošek, O., 156.
reis, H. A., 110.
udryashov, M. V., 165.
abzoffsky, N. A., 83.
awson, W. See Dodds, E. C., et al., jt. authors, 142, 143.
levine, P. P., Fabricant, J., & Mitchell, G. B., 81.
—, & Hofstad, M. S., 80.
hovorol, H., & Philippe, L., 50.
liddo, S., 40.
illie, R. D., 173.
inggood, F. V., & Fenton, E. L., 17.
lipnicki, J., 113.
oeb, E. N. See Seegal, B. C., jt. author, 168.
oeb, L., 112.
oosli, J. K. See Gall, L. S., et al., jt. authors, 149.
ucker, J. T., & Neumayer, E. M., 109.
uke, D., 25.
cArthur, J. N. See Robinson, C. H., et al., jt. authors, 155.
acCallum, F. O. See Gardner, F., et al., jt. authors, 139.
cCance, R. A. See Venn, J. A. J., et al., jt. authors, 122.
McDermid, A. M., 158.
cIntosh, C. W., & Konst, H., 10.
airs, R. E. See Pounden, W. D., et al., jt. authors, 24.
Manninger, R., 75.
arrian, G. F. See Graham, A. F., et al., jt. authors, 134.
artini, E., 178.
ath-ws, F. P., 136.
atterson, L. D., Scott, H. M., & Singsen, E. P., 124.
de Mollo, F. P., 61, 64.
eschini, M. See Meschini, S., jt. author, 127.
eschini, S., & Meschini, M., 127.
ikačić, D., 105.
iller, G. D. See Seath, D. M., jt. author, 169.
iller, M. H. See Stuart-Harris, C. H., jt. author, 66.
inard, E. L., & Jungherr, E., 85.
ingle, C. K., 37.
itchell, G. B. See Levine, P. P., et al., jt. authors, 81.
ixer, H. W. See Kirschbaum, A., jt. author, 117.
oore, H. P. See Fritz, J. C., et al., jt. authors, 121.
oretti, B., 15.
organ, B. B., Johansson, K. R., & Emerson, E. Z., 16.
organ, H. R., & Bennett, G. A., 33.
orrison, J. T. See Thomson, D., et al., jt. authors, 180.
oule, G. R., 132.
oynihan, I. W., 130.
unson, S. C. See Yeager, J. F., jt. author, 141.
eter, E., 27.
neumayer, E. M. See Lucker, J. T., jt. author, 109.
newiadomski, M. M., 114.
nilsson, N. J. See Sandstedt, H., et al., jt. authors, 115.
nobrega, P., & Bueno, R. C., 46.
ordstrom, A. See Cowles, R. B., jt. author, 154.
ordström, G. See Sandstedt, H., et al., jt. authors, 115.
Novicky, R., 63.
olson, C., Jr., 118, 119.
pallaske, G., 148, 157.
arsons, L. G., 88.
aschev, I. See Pavlov, P., jt. author, 60.
avlov, P., 52.
—, & Paschev, I., 60.
earson, A. G. See Webber, H. H., et al., jt. authors, 94.
hilippe, L. See Lhovorol, H., jt. author, 50.
iercy, S. E., 21.
igoury, L., 19.
latt, C. S., 126.
ochard, P. See Ceccaldi, J., et al., jt. authors, 51.
ortman, R. W., 98.
ortmann, A., 179.
ounden, W. D., Bell, D. S., & Mairs, R. E., 24.
—, & Edgington, B. H., 28.
uisseit, E., 104.
adeleff, R. D., 95.
afyi, A. See Delpy, L. P., jt. author, 65.
ake, G. See Donovick, R., et al., jt. authors, 138.
ampon, L. See Donatien, A., jt. author, 58.
ampon, L. E., & Dolman, C. E., 35.
remlinger, P., 22, 62.
epetto, E., 1/8.
ewell, R. E., 145.
ichman, I. M., Gelfand, M., & Hill, J. M., 174.
robertson, M., 145.
—. See also Kerr, W. R., jt. author, 54.
obinson, C. H., Hlynka, I., Herman, F. A., & McArthur, J. N., 155.
obinson, R. See Dodds, E. C., et al., jt. authors, 142, 143.
ogers, A. C., 70.
ollinson, D. H. L. See Haq, I., jt. author, 152.
ottgardt, A. A., & Zuloaga, E. P., 1.
oushdy, A., 4.
ubin, M., Bird, H. R., Green, N., & Carter, R. H., 135.
rudert, F. J., & Foter, M. J., 29.
affer, C. M., Jr. See Dodds, E. C., et al., jt. authors, 143.
t. John, E., & Gordon, F. B., 84.
ale, L., Jr., Smith, M. R., & Wood, W. B., Jr., 31.
—, & Wood, W. B., Jr., 30.
alsbury, E. J., 145.
andstedt, H., Sjöberg, K., Nilsson, N. J., & Nordström, G., 115.
chaafsma, A. See Grasset, E., et al., jt. authors, 103.
chmidt, E. C. H., 68.
cott, H. M. See Matterson, L. D., et al., jt. authors, 124.
eath, D. M., & Miller, G. D., 169.
ebrell, W. H. See Kornberg, A., et al., jt. authors, 12.
eegal, B. C., & Loeb, E. N., 168.
elle, W. A., 150.

Index

Shafir, A. L., 144.
Shortt, H. E., 53.
Simmons, E. L. See Taliaferro, W. H., et al., jt. authors, 57.
Singsen, E. P. See Matterson, L. D., et al., jt. authors, 124.
Sjöberg, K. See Sandstedt, H., et al., jt. authors, 115.
Skidmore, B. E. See Day, H. G., jt. author, 123.
Smith, H., 44.
Smith, M. G., Blattner, R. J., & Heys, F. M., 67.
Smith, M. R., & Wood, W. B., Jr., 32.
—. See also Sale, L., Jr., et al., jt. authors, 31.
Stark, C. N. See Gall, L. S., et al., jt. authors, 149.
Stavitsky, A. B., & Beck, J. D., 14.
Stenius, R., 8.
Stephan, S. A. R. See Kaschula, V. R., jt. author, 102.
Stewart, A. See Gardner, F., et al., jt. authors, 189.

Stuart-Harris, C. H., & Miller, M. H., 66.
Swan, C., Tostevin, A. L., & Black, G. H. B., 87.
Taliaferro, L. G. See Taliaferro, W. H., et al., jt. authors, 57.
Taliaferro, W. H., Taliaferro, L. G., & Simmons, E. L., 57.
Thomson, D., Thomson, R., & Morrison, J. T., 189.
Thomson, R. See Thomson, D., et al., jt. authors, 189.
du Toit, P. J., 177.
Tostevin, A. L. See Swan, C., et al., jt. authors, 87.
Trinquier, E. See Ceccaldi, J., et al., jt. authors, 51.
Vargues, R. See Ceccaldi, J., et al., jt. authors, 51.
Venn, J. A. J., McCance, R. A., & Widdowson, E. M., 122.
Wagner, R. P. See Webber, H. H., et al., jt. authors, 94.

Wallgren, A. J., b.
Webber, H. H., Wagner, R. P., & Pearson, A. G., 94.
Whitlock, J. H., & Baker, D. W., 125.
—, & Fabricant, J., 43.
Widdowson, E. M. See Venn, J. A. J., et al., jt. authors, 122.
Wood, W. B., Jr. See Sale, L., Jr., author, 31.
—. See also Sale, L., Jr., et al., jt. authors, 31.
—. See also Smith, M. R., jt. author, 32.
Wramby, G. O., 28.

Yeager, J. F., & Munson, S. C., 141.

ERRATUM. V.B. 18. 459. In line 8, for "intracerebrally" read "intranasally."

The Editor will be glad to receive publications relating to Veterinary Science and cognate subjects in order that they may be dealt with in the *Veterinary Bulletin*.

Reports of Departments, Special Reports, reprints, etc., etc., should be sent as soon as they are issued.

Books for Review.

The Editor will be glad to receive books for review in the *Veterinary Bulletin*.

Bulletins on disease subjects written for farmers and "popular" articles of a similar nature are not included in the *Veterinary Bulletin*. Those of a sufficiently important nature are, however, included in *Index Veterinarius*; so also are certain review articles, presidential addresses, congress proceedings, etc., where the title conveys as much information as could be given in an abstract of a few lines. For information of this nature, readers of the *Veterinary Bulletin* are referred to *Index Veterinarius*, where titles of all publications indexed by the bureau are fully cross-referenced.

A list of annotations and reviews, classified according to subject, is now given in *Index Veterinarius*, being inserted at the end of each number. Such papers will not necessarily be dealt with in the *Veterinary Bulletin*.